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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,445	06/29/2000	Narendra Pulimi	CS10744	8066
7590	01/28/2004			EXAMINER GELIN, JEAN ALLAND
Motorola Inc Personal Communications Sector Intellectual Property Department (PJB) 600 North US Highway 45 Rm AN475 Libertyville, IL 60048			ART UNIT 2681	PAPER NUMBER 15
			DATE MAILED: 01/28/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/606,445	PULIMI ET AL.
<b>Examiner</b>	<b>Art Unit</b>	
	Jean A Gelin	2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 11 November 2003.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-8 and 10-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 12-14 is/are allowed.

6)  Claim(s) 1-4, 6 and 8 is/are rejected.

7)  Claim(s) 5, 7, 10 and 11 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ . 6)  Other: \_\_\_\_ .

## DETAILED ACTION

1. This is in response to the Applicant's Notice of Appeal filed on November 11, 2003 in which claims 1-8 and 10-16 are currently pending. Applicant's arguments are persuasive and, therefore, the finality of the Office Action mailed on 5/6/03 is withdrawn.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tay et al. (U.S. Patent No. 5,563,615) in view of Wallace et al. (US 5,835,065).

Regarding claim 1, Tay discloses a broadband (i.e., multi-band) antenna apparatus comprising: a broadband (or multi-band) antenna (figs. 1-3) including a first element (i.e., inner element) and a second element (i.e., outer element), the first and second (i.e., inner element and outer element) elements having different resonant frequencies (col. 4, lines 12-23). As illustrated in figs. 1, 3, and 4, Tay shows an helix coil 12 corresponding to the helical antenna is grounded to the ground plane 42 (col. 3, lines 39-52).

Tay does not specifically teach the grounded helical antenna surrounding the multi-band antenna.

However, the preceding limitation is known in the art of communications. Wallace teaches the antenna is surrounded by a helical antenna (col. 2, lines 19-21). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to implement the techniques of Wallace within the system of Tay in order that the helical antenna surround the whip antenna and the variable length whip and helix antenna can be in a portable communication device.

Regarding claim 3, Tay discloses a broadband (i.e., multi-band) antenna apparatus comprising: a broadband (or multi-band) antenna (figs. 1-3) including a helical antenna and a monopole antenna, the helical antenna and the monopole antenna having different resonant frequencies (col. 3, lines 38-43, col. 4, lines 18-23). As illustrated in figs. 1, 3, and 4, Tay shows an helix coil 12 corresponding to the helical antenna is grounded to the ground plane 42 (col. 3, lines 39-52).

Tay does not specifically teach the grounded helical antenna surrounding the multi-band antenna.

However, the preceding limitation is known in the art of communications. Wallace teaches the antenna is surrounded by a helical antenna (col. 2, lines 19-21). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to implement the techniques of Wallace within the system of Tay in order that the helical antenna surround the whip antenna and the variable length whip and helix antenna can be in a portable communication device.

Regarding claim 4, Tray teaches the helical antenna includes turns around a linear axis and distance between adjacent turns (i.e., tables 1 and 2 in col. 4 shows the distance between turns).

Regarding claim 6, Tay discloses a transceiver (or cellular telephone) figs. 1-2 antenna comprising: an inner antenna (203) including a first element (201) and a second element (202), the first and second elements having different resonant frequencies (col. 2, lines 1-20, col. 3, lines 39-52); and a radio frequency (RF) helical antenna coupled to the inner antenna (i.e., helix coil 12, which includes in the broadband antenna, is shorted to ground portion 44 of fig. 1, col. 2, lines 51-55, and col. 3, lines 39-52), a first section having a distance between adjacent turns of a first predetermined amount (i.e., tables 1 and 2 in col. 4 shows the distance between turns), and a second section having a distance between adjacent turns of a second predetermined amount, the second predetermined amount less than the first predetermined amount (i.e., tables 1 and 2 in col. 4 shows the distance between turns).

Tay does not specifically teach the grounded helical antenna surrounding the inner antenna.

However, the preceding limitation is known in the art of communications. Wallace teaches the antenna is surrounded by a helical antenna (col. 2, lines 19-21). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to implement the techniques of Wallace within the system of Tay in order that the helical antenna surround the whip antenna and the variable length whip and helix antenna can be in a portable communication device.

4. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tay et al. (U.S. Patent No. 5,563,615) in view of Wallace et al. (US 5,835,065) further in view of Applicant's admission of prior art.

Regarding claims 2 and 8, Tay in view of Wallace teaches all the limitations above. Tay further teaches the helical antenna 12 is grounded to ground plane 42, and the ground plane 42 and the helical antenna coupled to the transceiver, (i.e., which is within a mobile radio as suggested in col. 1, lines 17-18), (col. 3, lines 18-25); a printed circuit board (PCB) which is typical within a mobile radio, or cellular telephone housing, (col. 3, lines 18-25). Tay further teaches one end of the helix is shorted to a ground portion of a feed port connected to a ground plane (i.e., inherently the ground plane is associated with metal, col. 3, lines 19-24)

Tray in view of Wallace does not specifically the cellular telephone housing formed of a conductive material.

However, the Applicant admits in the Disclosure that it is "known in the art" the apparatus characterized by: a cellular telephone housing formed of a conductive material (page 4, lines 2027). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Tay in view of Wallace to include a conductive housing for the purpose of preventing electromagnetic energy present in the interior space from passing through the surface of the housing.

***Allowable Subject Matter***

5. Claims 12-16 are allowed.
6. Claims 5, 7, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 5 is objected for the same reason recited in the previous Office Action (paper #9).

Claims 7, 10, and 11 are objected for the same reason recited in the previous Office Action (paper #7).

Claims 12-16 are allowed for the same reason recited in the previous Office Action (paper #3).

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A Gelin whose telephone number is (703) 305-4847. The examiner can normally be reached on 9:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4847.

JGelin  
January 23, 2004

JEAN GELIN  
PATENT EXAMINER  
Jean Alland Gelin